

SyncLock

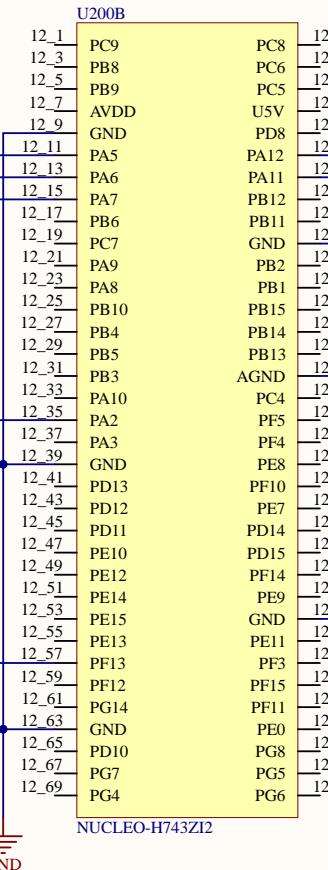
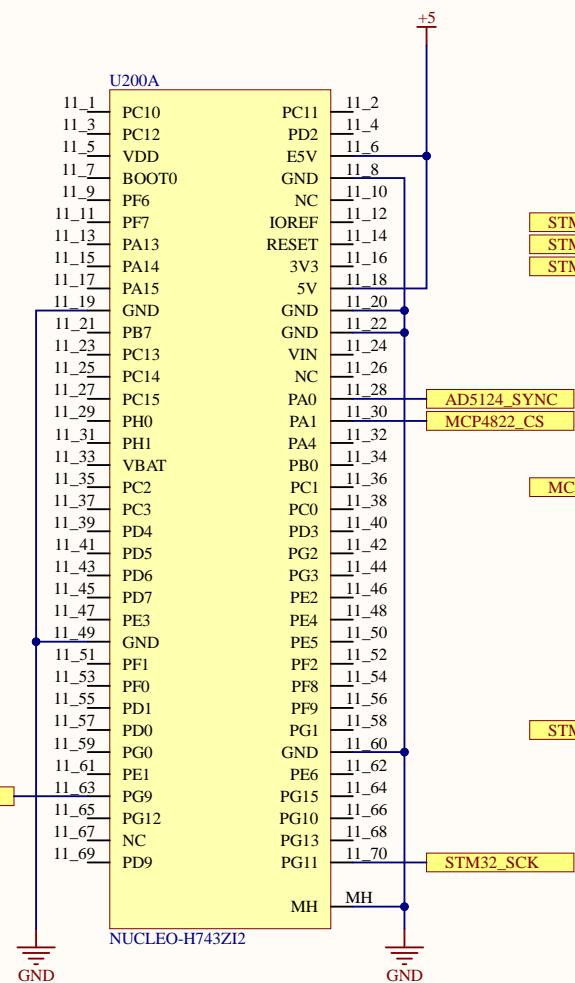
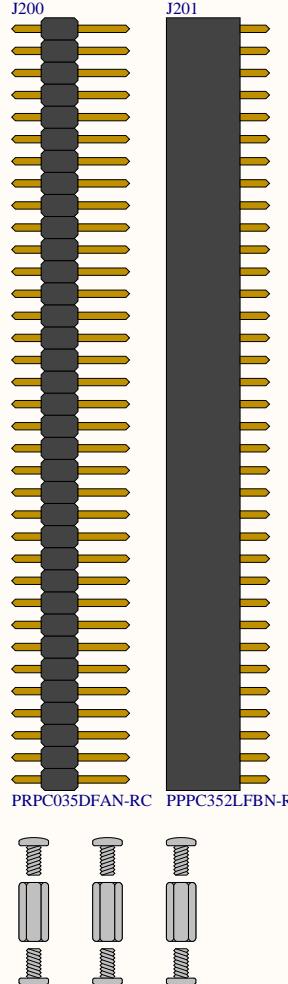
Project: Digital Lock In Amplifier

Page Name:
Power Supply.SchDoc

Variant:
[No Variations]

Authors:
Brayden McKeen Ese Dan-Aighewi Minghui Liang
Lucien Somorai Yupeng Zhao Haoran Zhou

A



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Project:

Digital Lock In Amplifier

Page Name:

MCU.SchDoc

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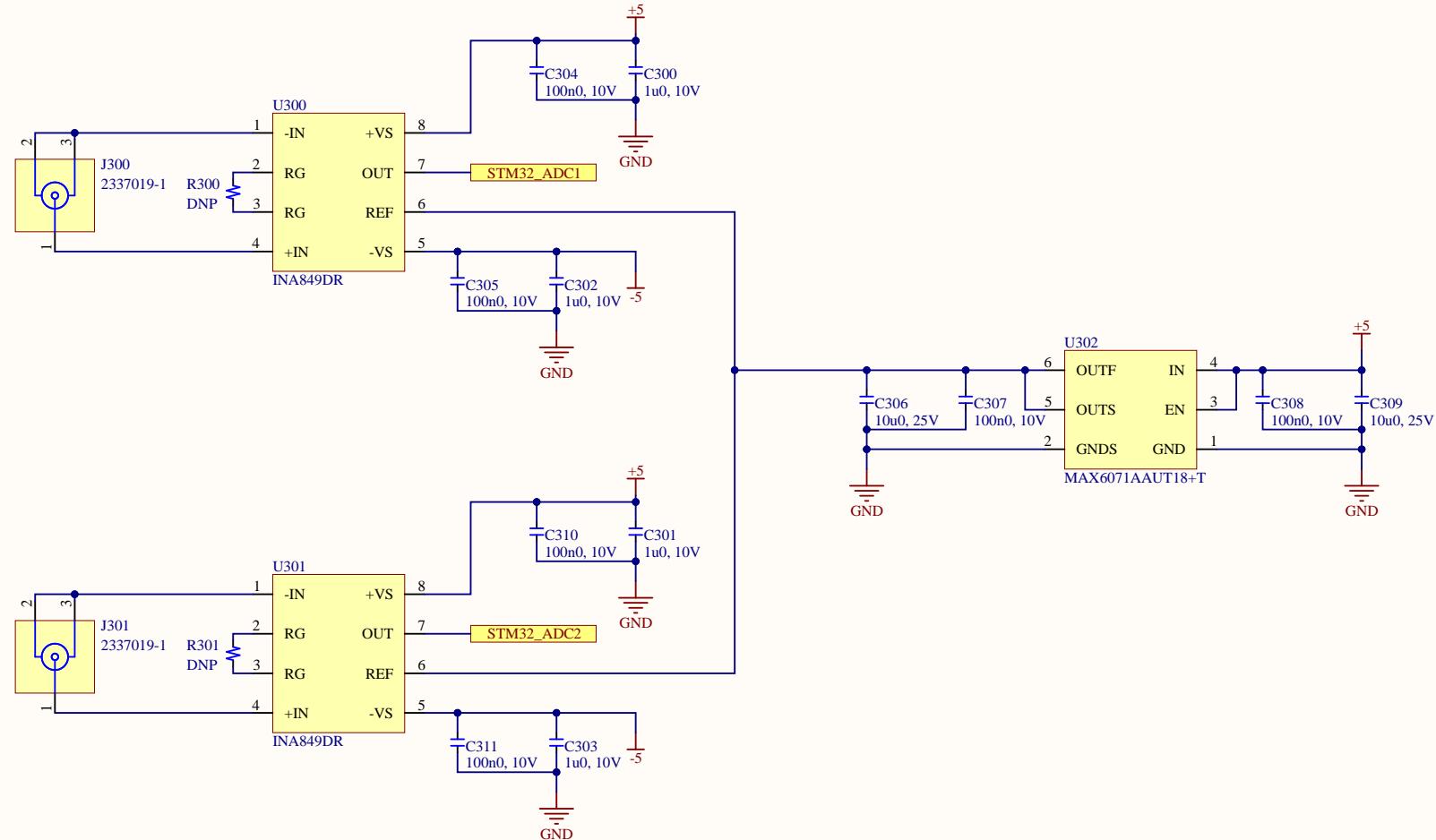
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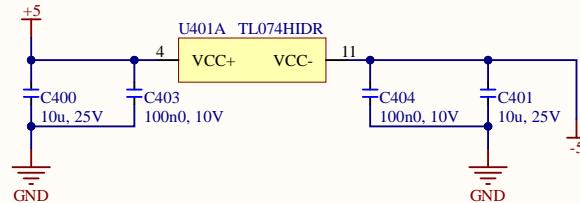
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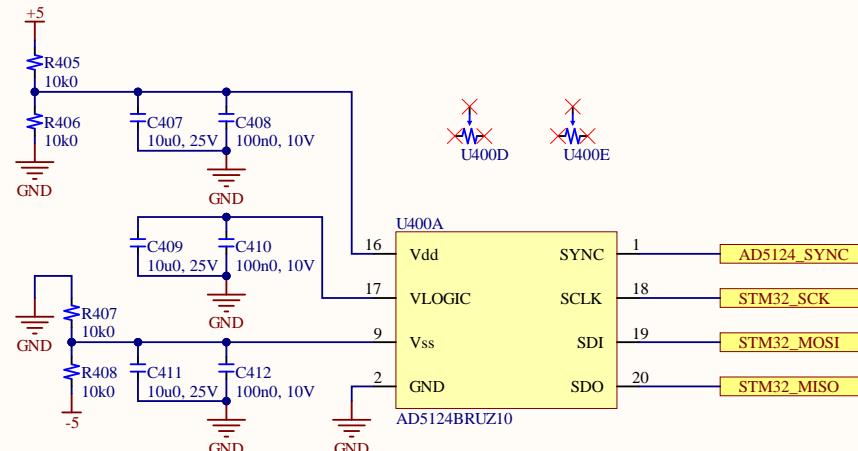
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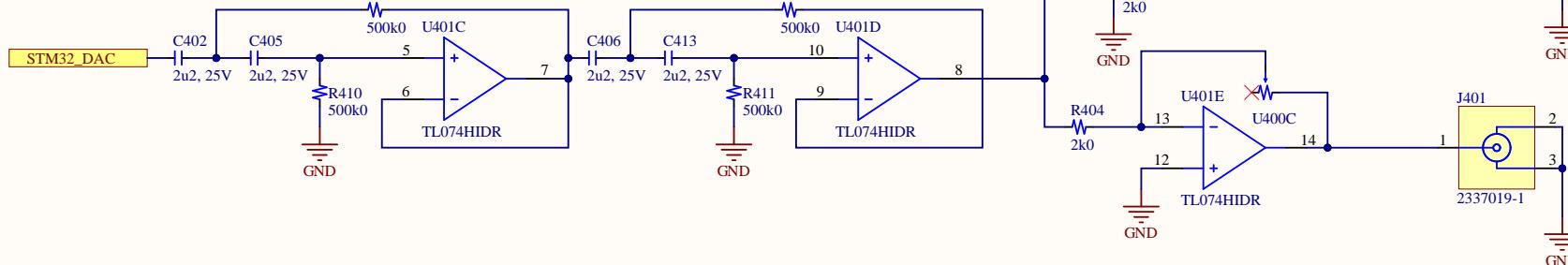
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Notes: (unless otherwise specified, all specifications referenced shall be of the latest revision).

1. Millimeter (mm) are the controlling dimensions for the drawings and supplied data.
2. Interpret drawing as per IPC-2222. Interpret dimensions as per ASME Y14.5, workmanship to comply with IPC-6012 Class 2 inspected per IPC-A-600.

3. Materials:

- A) Laminate and prepreg shall be according to IPC-2221 and meet UL 94V-0.
- B) Vendor to use standard FR-4 material (Refer to drawing below for thickness).
- C) Material must be capable of Pb-free soldering.

4. Holes:

- All holes shall be located within +/-0.0762 mm of true position. Layer to layer registration shall be within +/-0.127 mm.
- All plated holes shall be according to IPC-6012 Class 2, with a minimum of 20 um plating in the barrel of the hole.
- All hole sizes listed are finished hole sizes.

5. Finish:

- All exposed conductive pattern areas not covered with solder mask or other plating shall be plated with Electroless Nickel Immersion Gold (ENIG). The gold shall be plated to a minimum thickness of 2 microinches over a base of 100–200 microinches of electroless nickel.
- Apply liquid photo imageable solder mask per IPC-SM-840, Class T, to both sides of the board over bare copper.
- Solder mask required in between all conductive areas.
- Solder mask openings may be enlarged by vendor to ensure that no soldermask is deposited on pads. Openings cannot be enlarged to more than .1016 mm larger than the corresponding pad. Enlarging the openings cannot violate note 5C.
- Solder mask colour: Green.
- Silkscreen: Top and bottom, white, ensure no ink on pads.

6. Marking:

- Board supplier must be UL recognized and shall mark PCB with manufacturing traceability. Country where PCB is manufactured and UL recognized marking using permanent, non-conductive epoxy ink or soldermask material.

7. Test requirements:

- All boards shall be 100% electrically tested as defined by IPC-9252.

8. Tolerances:

- Warp or twist of board shall not exceed 0.75%.
- All dimensions shown are for reference only. Board outlines and drill hole locations should be fabricated according to the gerber data provided.
- Remove all burrs and break sharp edges.
- Plated Through Hole: +/- 0.0762 mm.
- Non-Plated Through Hole: +/- 0.0508 mm.
- Board dimension: +/- 0.254 mm.

9. Packaging

- All PCBs must be clean and free of all foreign materials and vacuum packed in anti-static bags with desiccant material to control moisture.

10. Vias

- Through via layers 1–2.

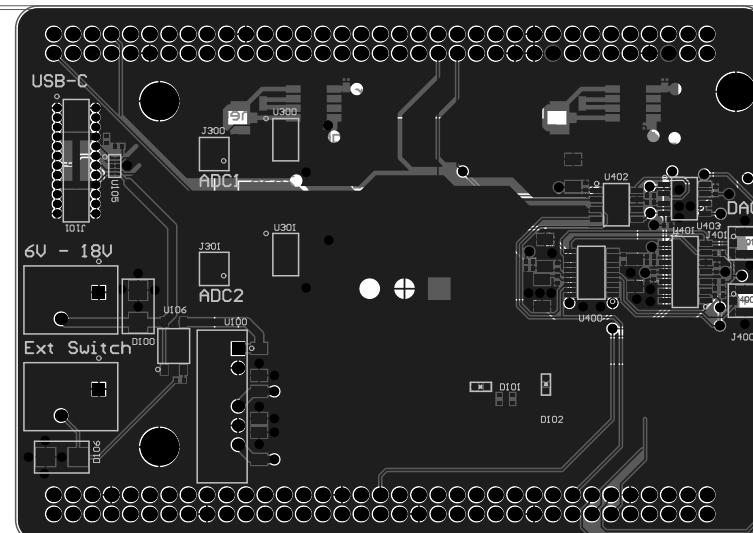
11. Stackup

- Refer to drawing.

12. Fabrication to be in accordance with RoHS directive

2011/65/EU

Fabrication Notes

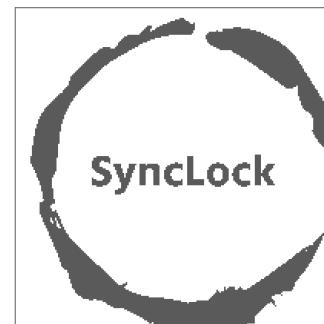


99.1mm

Stackup:



Cu-Cu, thickness 0.841 mm +/-10%



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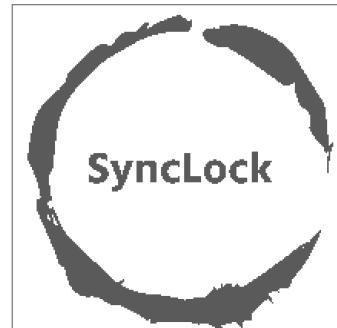
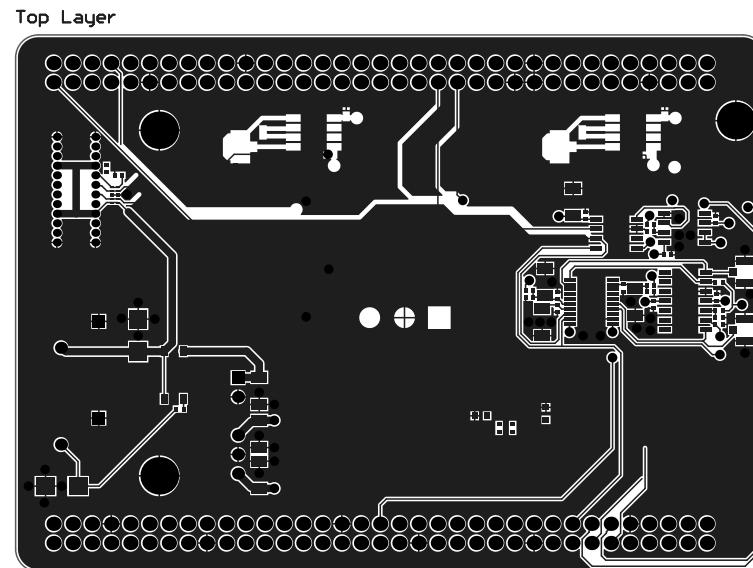
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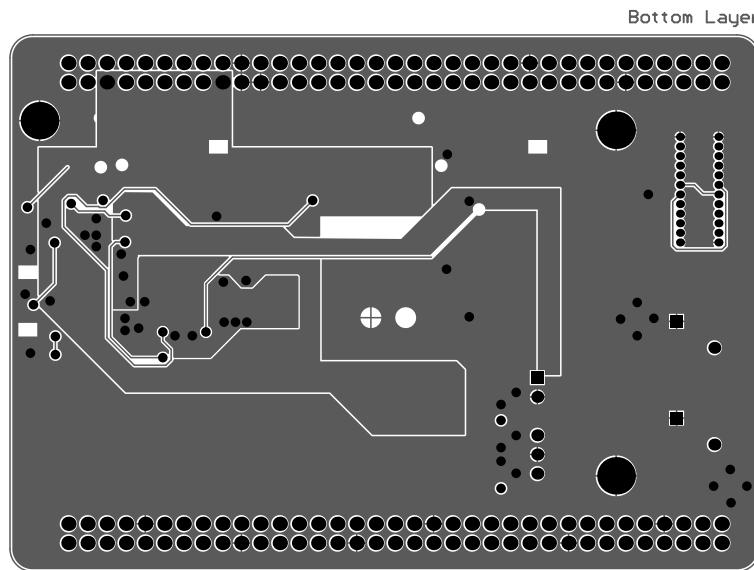
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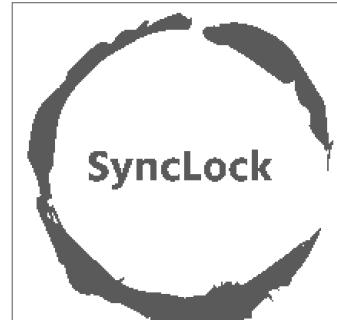
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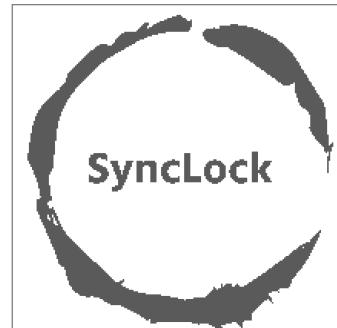
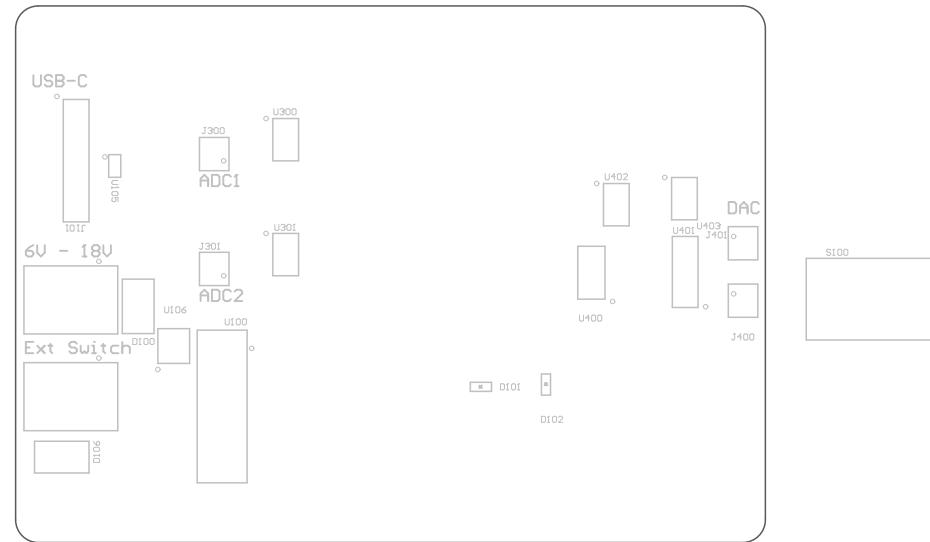
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Top Overlay



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Bottom Overlay

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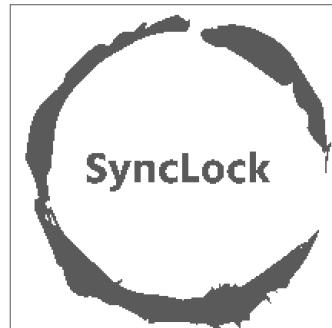
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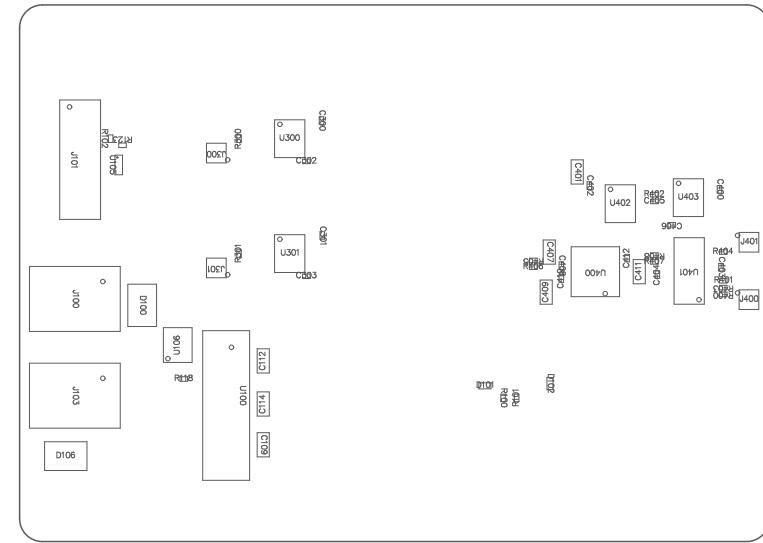
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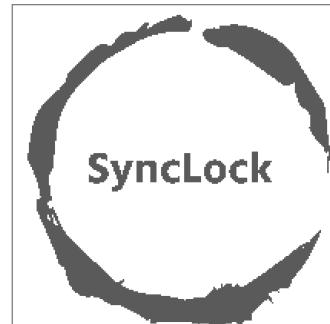
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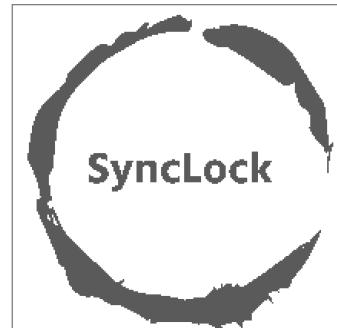
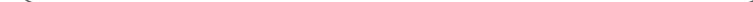
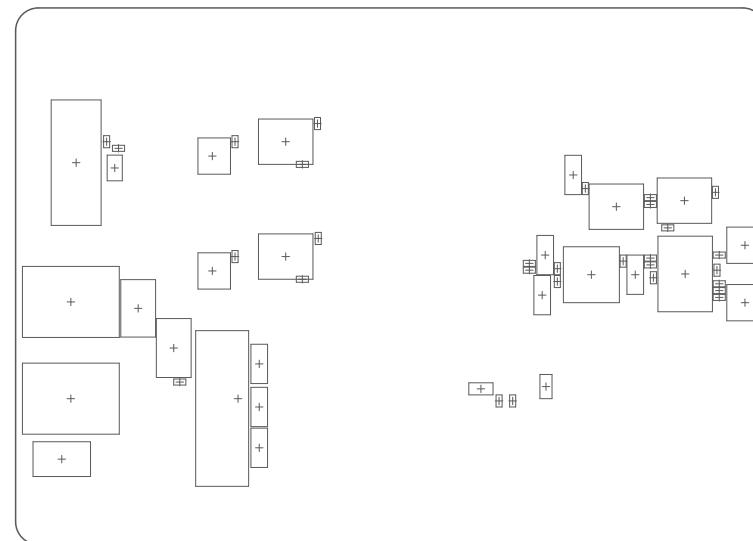
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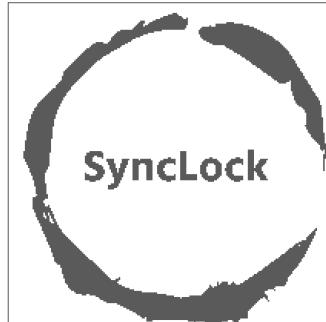
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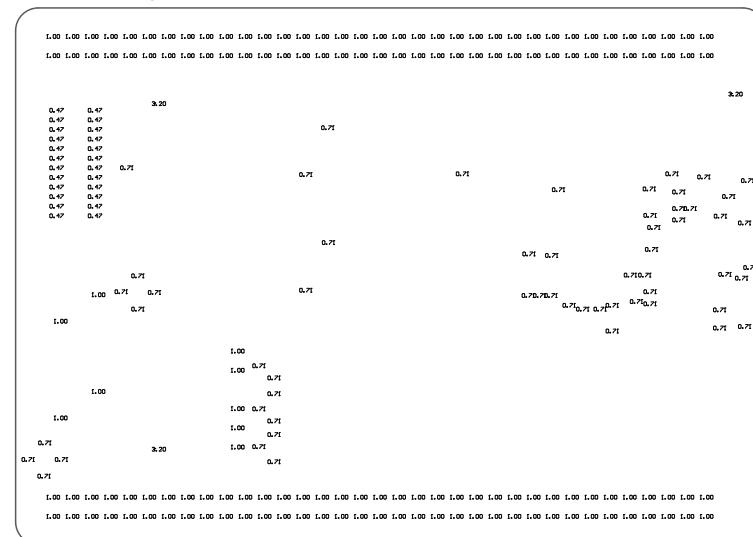
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Symbol	Count	Hole Size	Plated	Hole Type	Drill Layer Pair	Via/Pad	Pad Shape	Template
1.65	2	64.96mil (1.650mm)	PTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c235h165
3.20	3	125.98mil (3.200mm)	PTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c500h320
0.47	24	18.50mil (0.470mm)	PTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c107h47
0.71	58	28.00mil (0.711mm)	PTH	Round	Top Layer - Bottom Layer	Via	Rounded	v127h71
1.00	149	39.37mil (1.000mm)	PTH	Round	Top Layer - Bottom Layer	Pad	(Mixed)	(Mixed)
236 Total								

Drill Drawing

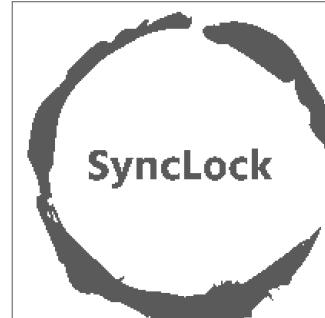


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